

[0022] FIG. 12 depicts a perspective view of an exemplary gastric band having a generally asymmetric profile defined by a contoured contact surface with a lower portion that is thicker than an upper portion;

[0023] FIG. 13 depicts a cross-sectional view of the gastric band of FIG. 12;

[0024] FIG. 14 depicts a perspective view of an exemplary gastric band having a generally asymmetric profile defined by a contoured contact surface with an upper portion that is thicker than a lower portion;

[0025] FIG. 15 depicts a cross-sectional view of the gastric band of FIG. 14;

[0026] FIG. 16A depicts a cross-sectional view of an exemplary gastric band having a generally asymmetric profile defining a tortuous path, in a substantially non-inflated configuration;

[0027] FIG. 16B depicts a cross-sectional view of the gastric band of FIG. 16A, in a substantially inflated configuration; and

[0028] FIG. 17 depicts a cross-sectional view of an exemplary gastric band having a generally asymmetric strap.

[0029] The drawings are not intended to be limiting in any way, and it is contemplated that various embodiments of the invention may be carried out in a variety of other ways, including those not necessarily depicted in the drawings. The accompanying drawings incorporated in and forming a part of the specification illustrate several aspects of the present invention, and together with the description serve to explain the principles of the invention; it being understood, however, that this invention is not limited to the precise arrangements shown.

#### DETAILED DESCRIPTION

[0030] The following description of certain examples of the invention should not be used to limit the scope of the present invention. Other examples, features, aspects, embodiments, and advantages of the invention will become apparent to those skilled in the art from the following description, which is by way of illustration, one of the best modes contemplated for carrying out the invention. As will be realized, the invention is capable of other different and obvious aspects, all without departing from the invention. Accordingly, the drawings and descriptions should be regarded as illustrative in nature and not restrictive.

[0031] FIGS. 1-6 illustrate an exemplary gastric band system (10). As shown, gastric band system (10) comprises an injection port (12), a gastric band (20), and a catheter (18). Injection port (12) of the present example comprises a port housing (14) and a needle penetrable septum (16). Port housing (14) defines a fluid reservoir (not shown), such that a needle may pierce septum (16) to reach the reservoir and add or withdraw fluid (e.g., saline, etc.) as described in greater detail below. Port housing (14) may be formed of titanium, plastic, or any other suitable material or combination of materials. Septum (16) may be formed of silicone or any other suitable material or combination of materials. Injection port (12) may be subcutaneously secured over a patient's sternum, to the patient's abdominal fascia, or in any other suitable location. In some versions, injection port (12) is configured and operable in accordance with the teachings of U.S. Pat. No. 2005/0283118, entitled "Implantable Medical Device with Simultaneous Attachment Mechanism and Method," published Dec. 22, 2005, the disclosure of which is incorpo-

rated by reference herein. Alternatively, injection port (12) may have any other suitable configuration and/or operability.

[0032] Gastric band (20) of the present example comprises an inflatable bladder (22) that is secured to a flexible strap (24). Inflatable bladder (22) may be formed of silicone or any other suitable material or combination of materials. Catheter (18) provides fluid communication between bladder (22) and the reservoir of injection port (12). In the present example, catheter (18), bladder (22), and injection port (12) form a closed fluid circuit. Accordingly, a needle that is inserted through septum (16) may be used to add or withdraw fluid from inflatable bladder (22), to adjust the restriction created by gastric band (20) as described in greater detail below. In some versions, gastric band (20) is configured and operable in accordance with the teachings of U.S. Pat. No. 7,416,528, entitled "Latching Device for Gastric Band," issued Aug. 26, 2008, the disclosure of which is incorporated by reference herein. Alternatively, gastric band (20) may have any other suitable configuration and/or operability.

[0033] In some settings, gastric band (20) is applied about the gastro-esophageal junction of a patient. In particular, and as shown in FIG. 2, gastric band (20) is installed such that bladder (22) is adjacent to the tissue of the gastro-esophageal junction, with strap (24) on the outside of bladder (22). The ends of strap (24) are secured relative to each other when gastric band (20) is sufficiently wrapped about the patient's stomach (2). While strap (24) is flexible in this example, strap (24) substantially resists stretching along its length. Accordingly, when fluid is added to bladder (22) (e.g., using a needle inserted through septum (16) of injection port (12), etc.), bladder (22) expands and exerts inward forces on the gastro-esophageal junction of the patient. This reduces the size of the internal stoma at the gastro-esophageal junction, thereby creating a restriction on food intake into the patient's stomach (2). It should be understood that the size of this stoma may be decreased by adding more fluid to bladder (22) to create a greater degree of restriction; or increased by withdrawing fluid from bladder (22) to reduce the degree of restriction.

[0034] As shown in FIGS. 2-4 and 6, an installed gastric band (20) at least substantially encloses the upper portion of stomach (2) near the junction with esophagus (4) in the present example. FIG. 3 shows gastric band (20) in a deflated configuration, where bladder (22) contains little to no fluid, thereby maximizing the size of the stoma opening into stomach (2). FIG. 5A also shows gastric band (20) in substantially deflated configuration. FIG. 4 shows gastric band (20) in an inflated, fluid-filled configuration, where bladder (22) contains substantially more fluid than is shown in FIG. 3. In this configuration shown in FIG. 4, the pressure of gastric band (20) against stomach (2) is increased due to the fluid within bladder (22), thereby decreasing the stoma opening to create a food intake restriction. FIG. 4 also schematically illustrates the dilation of esophagus (4) above gastric band (20) to form an upper pouch (6) beneath the diaphragm muscle (8) of the patient. FIG. 5A also shows gastric band (20) in a substantially inflated configuration.

[0035] As best seen in FIGS. 5A-5B, bladder (22) of the present example is substantially symmetric about a horizontal plane (40) that bisects gastric band (20). In other words, the portion of gastric band (20) above horizontal plane (40) is substantially symmetric with the portion of gastric band (20) below horizontal plane (40). As best seen in FIG. 6, this configuration in some instances may provide a relatively abrupt transition from esophagus (4) to stomach (2). In par-